

UNIVERSITY OF CALIFORNIA
LOS ALAMOS SCIENTIFIC LABORATORY

(CONTRACT W-7405-ENG-36)

P. O. Box 1663

Los Alamos, New Mexico 87544

IN REPLY

REFER TO:

H-4

H. D. Bruner, M.D., Technical
Assistant to Commissioner Ray
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Dave:

RG	US DOE ARCHIVES	October 16, 1972
	326 U.S. ATOMIC ENERGY	
	COMMISSION	
Collection	1320	
Box	16 - Palomares	
Folder	20 - Correspondence	
	Richmond	

To begin, I would like to congratulate you on your new position. I sincerely hope you enjoy the new environment with its new challenges, responsibilities and rewards.

Things have been very busy for sometime, but I finally got all the cost estimates for Ramos and Iranzo. Our original "guesstimate" of \$17,000 for the alpha spectrometer and the alpha scintillation counters wasn't too bad, but the other items pushed the total to approximately \$25,000. We will need to ask for more money or, alternatively, ask Dr. Ramos to establish a priority list.

We have tried very hard to keep the total down, so I don't think it would help to repeat the cost estimate exercise. For example, I had three people supply cost estimates on the alpha spectrometer system alone. The analyzer and associated electronics that we selected are the least expensive, yet it will do the job and, in fact, will be interchangeable with the analyzer that will be used for the chest counter.

Will you please check the attached list and let me know your desires. I will need to know how you propose to handle this equipment purchase. Will you supplement the O6 equipment budget for FY 1973, or should we set up some special account specifically for this purpose? We also need to know who will pay for shipping costs. Dr. Ramos has agreed to pay shipping costs for the chest counter; perhaps he could do the same for the equipment itemized in the attached list.

I am enclosing a copy of a letter Wright wrote to Ed Valerio about a year ago (just after Wright returned from Palomares). As you see, the entire estimate for the equipment I have listed and the chest counter will be considerably less than Wright's estimate. Also, in view of my past experiences with the NAEG Ad Hoc Plutonium Committee and the AIBS Transuranium Group and projected dealings with Eniwetok and Colorado, I would like to reinforce Wright's interest

H. D. Bruner, M.D.

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October 16, 1972

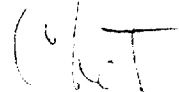
in obtaining "experience" data from Palomares. Doubtless, the current controversy over environmental plutonium contamination will continue.

I should point out one item that gave us considerable trouble. That is the meteorological station. In his August 18 letter to me, Emilio merely stated, "Meteorological Station -- 1 wind speed direction recording system Model CI-3, Climet Instruments." In 1966 a complete system was ordered for Spain. The system cost around \$3200 and consisted of all the items shown on pages 2 and 3 of the attachment. I have no idea if Emilio needs the entire package or only certain parts such as the recorders and transmitters. I shall send Dr. Ramos a copy of the attachment to this letter with a few specific questions such as the one above.

Best personal regards.

DOE ARCHIVES

Sincerely yours,



Chester R. Richmond
Group Leader
Biomedical Research

CRR:ES

Enc. equipment list

copy letter from W. H. Langham to E. J. Valerio (11-18-71)

EQUIPMENT FOR JUNTA DE ENERGIA NUCLEAR

	<u>Estimated Cost</u>
<u>A. Alpha Spectrometer</u>	
1 Northern Scientific 1024 channel Pulse-Height Analyzer, Model NS-910	\$5,900
1 Northern Scientific four-input Mixer-Router, Model NS-459	750
1 Northern Scientific Parallel Printer, Model NS-133 (HP-5055A), 50 cycle motor	1,290
4 ORTEC Preamplifiers, Model 121 (\$225 each)	900
4 ORTEC Amplifiers, Model 485 (\$235 each)	940
1 ORTEC Power Supply, Model 114	275
1 ORTEC NIM Bin, Model 401A	575
1 ORTEC Power Supply, Model 402A }	
6 ORTEC Silicon Barrier Detectors, Model A-030-300-100 (\$265 each)	1,590
1 Welch Dual Seal Vacuum Pump, Model 1405B	250
4 Vacuum Chambers, LASL fabricated (\$225 each)	900
4 ORTEC Biased Amplifiers, Model 408-A (\$350 each)	<u>1,400</u>
Total	\$14,770

B. Alpha Counters

2 Alpha Scintillation Counters, Model 4A, LASL fabricated	\$3,544
1 Power Design Pacific Power Supply, Model 2K10	<u>300</u>
Total	\$3,844

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C. Air Samplers

3	Sutorbilt Air Pumps, size 2 MV (\$135 each) [Shafts on both the blowers and associated electric motors come sized in either metric or English units and should be specified on the order]	\$400
3	Rockwell Manufacturing Co. Gas Counters, 415 Sewage Meter, ED 140297 (\$140 each)	<u>420</u>
	Total	\$820

D. Ion Exchange Resin

10	pounds Bio-Rad Laboratories analytical grade Anion Exchange Resin, AG-1X2 (\$28.60 per pound)	\$286
10	pounds Bio-Rad Laboratories analytical grade Anion Exchange Resin, AG-1X10 (\$34.90 per pound)	<u>349</u>
	Total	\$635

E. Furnace

1	Thermoline Corporation, Thermoline Type 1800, 2000°F, 240 volt, 50 cycle, 52 amp	<u>\$874</u>
	Total	\$874

F. Dryer Stove

1	Precision Scientific PS, Model 645-B, 120- 240 volt, 6000 watt, 50 cycle	<u>\$2,225</u>
	Total	\$2,225

G. Meteorological Station

DOE ARCHIVES

1	Climet Instruments Recording System, Model CI-3	\$3,295
	2 Recorders (two required), Climet Model 052-3-S (\$650 each)	\$1,300
	1 Transmitter, Wind Speed, with cup and cable, Climet Model 011-1	395
	1 Transmitter, Wind Direction, with 25- foot cable, Climet Model 012-10	550

1 Mounting Arm, Climet Model 091-1	\$50	
1 Mast, Climet Model 092-1	120	
1 Translator, Climet Model 013-6	880	
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Total		\$3,295

GRAND TOTAL	\$26,463
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DOE ARCHIVES

H-DO

November 18, 1971

Mr. Edward J. Valerio
Senior Health Physicist
Division of Operational Safety
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Valerio:

As a result of our brief discussion yesterday relative to my recent visit to the Spanish AEC and Palomares in connection with the 1966 Spanish weapons incident, I would like to submit for your consideration my feelings regarding the current status of the Spanish program. As you may recall, a four-point program was drafted to enable the Spanish to make appropriate studies of the Palomares area after the incident. Some \$275,000 in equipment money were provided by the Division of Military Applications, and operating funds in the amount of \$20,000 to \$25,000 per year were provided by the Division of Biology and Medicine for a period of three or four years. This four-point program consisted of (1) studying plutonium distribution in the soil as a function of depth and time; (2) studying plutonium in vegetation of the area as a function of time; (3) lung counts from representative residents of Palomares at the time of the incident; and (4) continuous air sampling and meteorological studies where air samples were taken daily at four different stations, the principal one being located essentially in the middle of the village. **DOE ARCHIVES**

*Not
True
HSS* | Approximately a year ago the Division of Biology and Medicine, with my concurrence, stopped operational support of the Spanish studies, and the Spanish AEC is endeavoring to continue them (with some curtailment) on its own. After my recent visit, during which I reviewed their data and even revisited Palomares, I am wondering if renewal of support and updating of their equipment should not be reconsidered. My feelings in this matter are generated not from any surprises revealed by their data but because of the very acute nature of public concern over the plutonium problem as it relates to the future nuclear energy developmental program in this country. In the current public concern there is a great need for data based on experience. The Spanish studies are and can continue to supply such data and at a faster, more effective rate if our support and interest in their efforts are renewed. I found the following:

(1) Almost all of their measurements are in terms of gross alpha activity. This is because the activities being measured are extremely low, and they have only one alpha spectrometer, which has resulted in their having plutonium spectral data only

on the first two years of air sampling. They have no such measurements on vegetation and soil samples. Another alpha spectrometer would hurry these measurements along. This would probably cost of the order of \$35,000.

(2) The soil data are quite variable, as one would expect because of the sampling program. Some of this variability undoubtedly is due to the fact that they are making gross alpha measurements in an area with a high natural alpha background.

(3) In certain areas the plutonium in the surface layer of soil is appearing to increase with time. This is believed to be a result of redeposition of plutonium picked up from the rough, unplowed areas in the immediate vicinity. These rough, unplowed areas were monitored originally with alpha probes. A resurvey of these areas with the FIDLAR-type instrument could conceivably give us "experience" data on plutonium translocation. Instrumentation to conduct such a survey and modest foreign travel allocation for a survey supervisor might cost another \$12,000.

(4) The chest counter provided to the Spanish immediately after the incident was the first model ever built at Los Alamos. It had a minimum detectable limit of approximately 40 nanocuries. Current versions of this type of equipment are a factor of 10 more sensitive. The Spanish measured approximately 80 people with the first instrument and found no detectable lung burdens. Re-examination of some of the original 80 people with a new version of this instrument would be very interesting in that the minimum detectable amount would be approximately 4 nanocuries and the people will have been exposed to potential plutonium resuspension for a period of six or so years. Negative results (as I am almost sure they would be) would provide useful data based on actual experience. To update their chest counter would cost of the order of \$35,000 plus about \$2,400 travel money to send two of our people to install the equipment and to instruct them in its use.

(5) The Spanish AEC does not have the operational funds to expedite the alpha spectrometry measurements. Operational support to the extent of about \$20,000 a year would allow them to employ two or three additional graduate students or technicians to conduct the measurements.

DOE ARCHIVES

As I visualize it, to renew support of their program to the extent outlined above would call for approximately \$80,000 in equipment money. \$3,000 to \$5,000 in foreign travel, and \$20,000 per year operational money for approximately three years. All told, this amounts to about \$140,000, of which \$80,000 would be equipment money supplied in the first year and the rest for travel and operational support over a period of three years. I would appreciate your getting the opinion of the Division of Operational Safety and the Division of Biology and Medicine on whether "experience"

Dr. Edward J. Valerio

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November 18, 1971

data of this type involving plutonium contamination of an inhabited area conceivably might not be worth several times this amount, if the current controversy over environmental plutonium contamination continues.

Sincerely yours,

DOE ARCHIVES

Wright H. Langham, Ph.D.
Associate Health Division Leader
for Biomedical Research

WHL:ES